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## LANDSAT-2 CEASES OPERATION

After five years of systematically studying the Earth's resources and environment from 920 kilometers (570 miles) in space, the NASA Landsat-2 spacecraft has been retired from operation because of a wear induced-failure of its primary flight control mechanism.

A two-month effort to keep the spacecraft pointed toward the Earth using other onboard flight assisting devices has so far proved unsuccessful. NASA engineers have placed the spacecraft in an engineering test mode for continuing evaluation of the attitude control problems. Landsat-2, launched Jan. 22, 1975, had a design lifetime of one year.

Landsat-3, launched in March 1978, will continue to provide data required by more than 400 domestic and foreign Earth resources programs.

Landsat-2 is the second in a series of three spacecraft that have been launched by NASA carrying experimental systems for remotely sensing features on the Earth's surface and collecting data from more than 250 beacen platforms in remote areas. Landsat-1, launched in 1972, was retired in early 1978. A fourth -- and more advanced -- Landsat is scheduled for launch late next year.

A major asset of the Landsat system is its repetitive observation which makes possible the detection of short-period changes -- as frequently as every nine days using two satellites.

The three most important potential uses of the Landsat data identified so far correspond to three of the major problems confronting the world today -- food, energy and the environment.

Landsat-2 provided a very important function by collecting Earth resources information used by federal and state agencies, domestic and foreign private companies and foreign countries.

Among the diverse applications for the data was that of using it for estimating worldwide agricultural production, geological studies in relation to oil and mineral exploration, and water resource studies such as water runoff from melting snow and water distribution. The satellite has been valuable for map making, especially in remote areas where existing maps were found to be in error. Because of its rapid response capability, Landsat-2 data has been used in assessing such disasters as an oil well blowout in the Gulf of Mexico, flooding and volcanic eruptions.

Three NASA tracking and data acquisition facilities are equipped to receive sensor data from the Landsat spacecraft. The Landsat facilities at Goldstone, Calif., and at Goddard Space Flight Center, Greenbelt, Md., can receive sensor and platform data directly from the spacecraft whenever it is in direct line-of-sight. The primary station at Fairbanks, Alaska, collects such data by commanding the satellite's tape recorders to replay during the most northerly portion of each orbit.

Data has been purchased by scientists in more than 20 countries from the U.S. Department of Interior's Earth Resources Observations Systems Data Center in Sioux Falls, S.D.

More than 1,360,000 separate views of the Earth from NASA's Landsats have been provided to the data center, where both independent scientists and the general public may obtain material for a nominal fee.

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